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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,084	06/28/2001	Alok Dev	US 010292	5316

24737 7590 07/08/2003

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

FOONG, SUK SAN

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,084

Applicant(s)

DEV, ALOK

Examiner

Suk-San Foong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/9/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/9/03 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3-8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lillienfeld et al. ('322) in combination with Baliga et al. ('412) and Cox et al. ('508) as previously applied, and Chen et al. ('303).

Lillienfeld et al., Baliga et al. and Cox et al. are relied on for the teachings discussed in the rejections of paragraph 2 of the Office Action mailed on 3/7/03, and as follows.

The combination process does not disclose implanting an edge termination layer beneath the insulating layer but not beneath the conductive material as recited claim 1, lines 11-12.

Chen et al. teaches a method of forming integrated circuits which includes forming insulating layer 24 over semiconductor substrate 12 (Col. 3, lines 61-68, and Fig. 2), then forming mask 34 having window regions (Col. 4, lines 2-4), subsequently etching insulating layer 24 to expose a portion of substrate 12 (Col. 4, lines 2-7, and Fig. 3), subsequently

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depositing metal layer 36 over substrate 12 such as on mask 34 and the portion of the exposed substrate 12 (Col. 4, lines 40-45, and Fig. 4), then removing portions of metal layer 36 deposited over mask 34 by lift-off technique (Col. 4, lines 45-51, and Fig. 50), and subsequently implanting ions into substrate 12 beneath insulating layer 24 while not penetrating through metal layer 36 (Col. 4, lines 51-57).

It is clear from the disclosure of Chen et al. that if metal layer 36 and insulating layer 24 were coplanar that region 40 could still be formed although the maximum possible depth of region 40 would not be as large as the depth that could be formed using the structure of Fig. 5.

It would have been within the scope to one ordinary skill in the art to combine the teachings of the combination process with Chen et al. because it would enable formation of edge termination layer of the combination process to be performed.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lillienfeld et al. ('322) in combination with Baliga et al. ('412) and Cox et al. ('508) as applied to claims 1, 3-8 and 18 above, and further in view of Thero et al. ('232) as previously applied.

Thero et al. is relied on for the teachings discussed in the rejections of paragraph 3 of the Office Action mailed on 3/7/03.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suk-San Foong whose telephone number is 703-305-0383. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 (7724, 3431, 3432).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

SK

June 26, 2003


George Fourson
Primary Examiner
Art Unit 2823